Original Article

Sexual Dysfunction in MASLD- Experience at Tertiary Care Center of Northeren India

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Abstract

Background: MASLD (Metabolic dysfunction associated steatotic Liver Disease) is strongly linked to sexual dysfunction. In men, this often manifests as erectile dysfunction, testosterone deficiency, and reduced libido. In women, it is tied to reduced sexual desire, poor arousal, and irregular menstrual cycles. These issues are primarily driven by shared metabolic conditions like insulin resistance and hormonal imbalances. MASLD and sexual dysfunction share the same underlying metabolic drivers like insulin Resistance, hormonal Imbalance, Obesity & Systemic Inflammation. The most effective treatment is adopting lifestyle interventions like a Mediterranean-style diet, eliminating alcohol, and getting regular exercise to reduce liver fat and improve insulin sensitivity. For men with severe testosterone deficiency, testosterone replacement may be an option, provided it is closely monitored by an endocrinologist. Treatments for erectile dysfunction (e.g., sildenafil) are generally safe for mild to moderate MASLD, though dosages should be adjusted in patients with severe hepatic impairment. The aim of study is to estimate prevalence of sexual dysfunction in Metabolic dysfunction associated fatty liver disease (MASLD) patients at tertiary care center of Northern India. **Material and Methods:** This study was conducted at Medical Gastroenterology Department at PGIMS, Rohtak. It was a prospective study done over two years, from 01.05.2025 to 30.04.2026, during which 200 confirmed patients of MASLD were enquired for any kind of sexual dysfunction. For better understanding 100 patients each of F0-F3 fibrosis and cirrhosis were enrolled. All 200 MASH patients were males, in 20-50 yrs age group and were sexually active. Patient with past history of sexual dysfunction, anxiety, depression, alcohol intake, hepatitis B, C and HIV which can cause sexual dysfunction were not included in the study. All patients underwent biochemical tests include liver & renal function tests, complete hemogram, thyroid profile, blood sugar, HbA1C, autoimmune and Wilson's disease profile Fibroscan, ultrasonogram and upper gastro-intestinal endoscopy. Fibrosis was graded by Fibroscan readings- <6 Kpa- F0, 6-7 Kpa- F1-F2, 7-12.2 Kpa- F3 and > 12.2 Kpa- F4 or cirrhosis. The written informed consent was taken before enrollment in the study. **Results:** Our department is seeing MASLD patients regularly for last 16 years and daily at least 8-10 MASLD patients, including new and old come for consultation. All the biochemical tests, Fibroscan, ultrasonogram abdomen, Endoscopy, ultrasonogram abdomen and treatment are available free of cost which increases regular follow-up and compliance of patients. On prospective analysis of 200 confirmed MASLD patients, all were males. Out of total pool of 200 patients, 100 patients each of F0-F3 fibrosis and cirrhosis were enrolled in the study. The sexual dysfunction was seen in 28 patients (14 %) of total MASLD patients. Out of these 28 patients, 6 (21.44 %) were in F0-F3 and 22 (78.56 %) were having cirrhosis. Most common kind of sexual dysfunction was erectile impotence (22 patients, 78.56 %) followed by and loss of libido (4 patients, 14.28 %) and premature ejaculation (2 patients, 7.14 %). Out of 100 patients of MASLD cirrhotic patients, sexual dysfunction was seen in 22 patient (78.56 %) and out of them 19 (86.36 %) had erectile impotence, 2 (9.09%) had loss of libido and 1 (4.54 %) had premature ejaculation and. In group of 100 patients of F0-F3 fibrosis with SD, total 6 patients (21.42 %) had sexual dysfunction. In them, 3 patients (50 %) had erectile impotence, 2 (33.33 %) had loss of libido and 1 (16.67 %) had premature ejaculation. **Conclusion:** In MASLD patients, the main thrust of treating health care professionals goes on hepatic impairment and its extra-hepatic manifestations but sexual dysfunctions are usually missed. Sexual dysfunction is important arm of extra-hepatic impact of MASLD which is rarely discussed by both doctor, patient and family members, most likely due to inhibition and male ego. Hence whenever treating an MASLD patient, sexual history must be evaluated in detail and impact of same should be scientifically assessed and treated accordingly.

Keywords: MAFLD, MASH, Cirrhosis, Loss of libido, Erectile impotence, Premature ejaculation.

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Introduction

In men, Erectile dysfunction (i.e., the inability to achieve or maintain an erection suitable for satisfactory sex) represents the most important alteration of male sexual function and may recognize different pathophysiologic mechanisms, whose incidence and prevalence is strongly related to increasing age and presence of comorbidities.[1,2] In both sexes, among other factors, unhealthy lifestyle habits, including diet, physical inactivity, smoking and alcohol abuse may play a significant role in the development of

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SD.[3,4] Diet is emerging as an important determinant in several pathological conditions and Mediterranean diet (MD) has been shown to be a healthy dietary pattern associated with an improvement of sexual function in both males and females. Metabolic dysfunction-Associated Steatotic Liver Disease (MASLD), previously referred to as Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the leading causes of orthotopic liver transplantation (OLT).[5] This condition, primarily affects subjects with obesity or type 2 diabetes mellitus (DM2), now considered a component of the Metabolic Syndrome (MetS) which, in turn, is a risk factor for SD.[6,7] Several studies have shown that patients with chronic liver diseases (CLD) are at higher risk of SD than the general population, with ED and decreased sexual desire in men, altered sexual desire and arousal, and dyspareunia in women, being the most commonly reported alterations of sexual function.[8-11] While the prevalence of SD in CLD has clearly been shown to mainly depend on the degree of liver function impairment,[9-11] the role of etiology is still debated.

Aim of Study - To estimate prevalence of sexual dysfunction in MASLD patients at tertiary care center of Northern India.

Materials and Methods

This study was conducted at Medical Gastroenterology Department at PGIMS, Rohtak. It was a prospective study done over two years, from 01.05.2025 to 30.04.2026, during which 200 confirmed patients of MAFLD were enquired for any kind of sexual dysfunction. For better understanding 100 patients each of F0-F3 fibrosis and cirrhosis were enrolled. All 200 MAFLD patients were males, in 20-50 yrs age group and were sexually active. Patient with past history of sexual dysfunction, anxiety, depression, alcohol intake, hepatitis B, C and HIV which can cause sexual dysfunction were not included in the study. All patients underwent biochemical tests include liver & renal function tests, complete hemogram, thyroid profile, blood sugar, HbA1C, autoimmune and Wilson's disease profile Fibroscan, ultrasonogram and upper gastro-intestinal endoscopy. Fibrosis was graded by Fibroscan readings- <6 Kpa- F0, 6-7 Kpa- F1-F2, 7-12.2 Kpa- F3 and > 12.2 Kpa- F4 or cirrhosis. The written informed consent was taken before enrollment in the study.

Results

Our department is seeing MASLD patients regularly for last 16 years and daily at least 8-10 MASH patients, including new and old come for consultation. All the biochemical tests, Fibroscan, ultrasonogram abdomen, Endoscopy, ultrasonogram abdomen and treatment are available free of cost which increases regular follow-up and compliance of patients. On prospective analysis of 200 confirmed MASLD patients, all were males. Out of total pool of 200 patients, 100 patients each of F0-F3 fibrosis and cirrhosis were enrolled in the study. The sexual dysfunction was seen in 28 patients (14 %) of total MASLD patients. Out of these 28 patients, 6 (21.44 %) were in F0-F3 and 22 (78.56 %) were having cirrhosis. Most common kind of sexual dysfunction was erectile impotence (22 patients, 78.56 %) followed by and loss of libido (4 patients, 14.28 %) and premature ejaculation (2 patients, 7.14 %). Out of 100 patients of MASLD cirrhotic patients, sexual dysfunction was seen in 22 patient (78.56 %) and out of them 19 (86.36 %) had erectile impotence, 2 (9.09%) had loss of libido and 1 (4.54 %) had premature ejaculation and. In group of 100 patients of F0-F3 fibrosis with SD, total 6 patients (21.42 %) had sexual dysfunction. In them, 3 patients (50 %) had erectile impotence, 2 (33.33 %) had loss of libido and 1 (16.67 %) had premature ejaculation.

Table 1: Showing sexual dysfunction distribution in total pool of MASLD Patients

Total MASLD Patients	Males	Females	Sexual Dysfunction Present	Sexual Dysfunction Absent
200	200 (100%)	0 (0%)	(28 Patients, 14 %)	(172 Patient, 86 %)

Table 2: Showing prevalence of sexual dysfunction in various groups of MASLD Patients

Total MASLD Patients	F0-F3 Fibrosis	F4 (Cirrhosis)
200	100	100
Sexual Dysfunction Present	6 (6%)	22 (22 %)
Sexual Dysfunction Absent	94 (94%)	78 (78 %)

Table 3: Showing types of sexual dysfunction in various groups of MASLD Patients

MASLD Pt with Sexual Dysfunction	F0-F3 Fibrosis	F4 (Cirrhosis)
28 (100%)	6 (21.44%)	22 (78.56%)
Erectile Impotence	3 (50 %)	19 (86.36 %)
Premature Ejaculation	1 (16.67 %)	1 (4.56 %)
Loss of Libido	2 (33.33%)	2 (9.09 %)

Discussion

Sex is a central aspect of human life and is significantly impacted by chronic illness. Cirrhosis, due to its unique pathophysiology and the side effects of common therapies, serves as a paradigmatic example, being associated with very high rates of sexual dysfunction in both men and women. Liver transplantation can modify certain hormonal and pathophysiological aspects related to sexual dysfunction, but complete recovery occurs in only a relatively small percentage of patients.[12] In liver diseases disease, rates of sexual dysfunction are as high as 79% in men and 64% in women.[13,14] Chronic liver diseases, particularly cirrhosis, induce significant endocrine disturbances in men, including hypogonadism, reduced bioavailable testosterone, elevated estrogen levels, gynecomastia, and testicular atrophy, especially

in advanced stages of the disease. These hormonal imbalances result from impaired hepatic clearance of estrogens, increased peripheral aromatization of androgens, elevated sex hormone–binding globulin (SHBG) levels, and disruption of the hypothalamic–pituitary–gonadal axis.[15,16] The association between Non-Alcoholic Fatty Liver Disease (NAFLD) and ED has also been widely demonstrated, with prevalence around 30–50% even in the pre-cirrhotic stages.[17] Even in the absence of cirrhosis, reduced desire has been observed in chronic viral hepatitis and in Non-Alcoholic Fatty Liver Disease (NAFLD), likely related to hypogonadism, chronic fatigue, and depression.[17] Impairment of sexual desire therefore appears to be a central element in the deterioration of quality of life, often underestimated in clinical practice. Our study was also in alignment with other previous studies and erectile impotence was most common sexual dysfunction in both cirrhotic and non-cirrhotic group, followed by loss of libido and premature ejaculation. Sexual dysfunction as expected was lower than in comparison to chronic hepatitis B, C and alcoholic patients.[18] Overall 14% of SD seen in our study group is lower than reported in our study which is positive sign in our geographical area and is area of further research.

Conclusion

In MASLD patients, the main thrust of treating health care professionals goes on hepatic impairment and its extra-hepatic manifestations but sexual dysfunctions are usually missed. Sexual dysfunction is important arm of extra-hepatic impact of MASLD which is rarely discussed by both doctor, patient and family members, most likely due to inhibition and male ego. Hence whenever treating an MASLD patient, sexual history must be evaluated in detail and impact of same should be scientifically assessed and treated accordingly.

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Conflicts of interest

There are no conflicts of interest.

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